

LPDES PERMIT NO. LA0005410, AI No. 1298

LPDES STATEMENT OF BASIS
FOR THE DRAFT LOUISIANA POLLUTANT DISCHARGE ELIMINATION SYSTEM
(LPDES) PERMIT TO DISCHARGE TO WATERS OF LOUISIANA

- I. **Company/Facility Name:** St. Mary Sugar Cooperative, Inc.
St. Mary Factory
Post Office Box 269
Jeanerette, Louisiana 70544
- II. **Issuing Office:** Louisiana Department of Environmental Quality
(LDEQ)
Office of Environmental Services
Post Office Box 4313
Baton Rouge, Louisiana 70821-4313
- III. **Prepared By:** Sonja Loyd
Industrial Permits Section
Water Permits Division
Phone #: 225-219-3090
E-mail: sonja.loyd@la.gov
- Date Prepared:** January 15, 2010
- IV. **Permit Action/Status:**
- A. **Reason For Permit Action:**
- Proposed reissuance of an expired Louisiana Pollutant Discharge Elimination System (LPDES) permit for a 5-year term following regulations promulgated at LAC 33:IX.2711/40 CFR 122.46.
- LAC 33:IX Citations: Unless otherwise stated, citations to LAC 33:IX refer to promulgated regulations listed at Louisiana Administrative Code, Title 33, Part IX.
- 40 CFR Citations: Unless otherwise stated, citations to 40 CFR refer to promulgated regulations listed at Title 40, Code of Federal Regulations in accordance with the dates specified at LAC 33:IX.2301, 4901, and 4903.
- B. LPDES permit - LPDES permit effective date: July 1, 2005
LPDES permit expiration date: June 30, 2010
EPA has not retained enforcement authority.
- C. Application received on December 22, 2009 with additional information received via email on January 27, 2010 and February 10, 2010.
- V. **Facility Information:**
- A. **Location -** 20056 Louisiana Highway 182 West in Sorrel, St. Mary Parish (Latitude 29°53'30", Longitude 91°37'06")

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B. Applicant Activity -

According to the application, St. Mary Sugar Cooperative, Inc., St. Mary Factory, is an existing raw cane sugar factory which produces raw sugar and molasses.

C. Technology Basis - (40 CFR Chapter 1, Subchapter N/Parts 401, 405-415, and 417-471 have been adopted by reference at LAC 33:IX.4903)

| <u>Guideline</u> | <u>Reference</u> |
|---------------------------|-------------------|
| Raw Cane Sugar Processing | LAC 33:IX.707.D.2 |

Other sources of technology based limits:

Current LPDES permit (effective July 1, 2005)
Best Professional Judgement

D. Fee Rate -

1. Fee Rating Facility Type: Minor
2. Complexity Type: II
3. Wastewater Type: II
4. SIC code: 2061

VI. Receiving Waters:

STREAM - Lake Fausse Pointe via a private swamp

BASIN AND SUBSEGMENT - Vermilion-Teche Basin, Subsegment No. 060702

DESIGNATED USES - a. primary contact recreation
b. secondary contact recreation
c. fish and wildlife propagation

VII. Outfall Information:

Outfall 002

- A. Type of wastewater - process wastewater (comprised of wastewaters from filter mud and fly ash, cane washwater, floor washwater, overflow from the spray cooling pond, and barometric condenser cooling water) and stormwater runoff
- B. Location - at the point of discharge from the northwest corner of the 250-acre impoundment prior to combining with other waters at Latitude 29°55'03", Longitude 91°36'03".

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- C. Treatment - treatment of these wastewaters consists of:
 - sedimentation
 - stabilization
- D. Flow - Seasonal, (Max 30-Day) 3.36 MGD
- E. Receiving waters - Lake Fausse Pointe via a private swamp
- F. Basin and segment - Vermilion-Teche Basin, Subsegment No. 060702

VIII. Proposed Permit Limits:

Summary of Proposed Changes From the Current LPDES Permit:

- A. The sample type for flow will be changed from estimate to measure based on additional information provided in an email (dated February 10, 2010) which indicated that the permittee has "a flow monitoring device at the outfall that records the flows".
- B. The daily maximum mass limit for BOD₅ will be changed in the draft permit based on the *Lake Fausse Pointe and Dauterive Lake Watershed TMDL for Dissolved Oxygen and Nutrients Including WLAs for Three Point Source Discharges* which was finalized on September 2, 2003. According to the current permit, this permittee was assigned a daily maximum water quality-based mass limit and a technology-based concentration limit for BOD₅ of 175 lbs/day and 15 mg/L, respectively. However, based on further review of the TMDL assessment, this Office has determined that the daily maximum water quality-based mass limit established in the current permit is inaccurate. The mass limit for BOD₅ will be changed to reflect 219 lbs/day based on information obtained from the TMDL assessment and an associated appendix. The daily maximum technology-based concentration limit will be removed from the draft permit by BPJ since (1) there is no requirement to limit concentration when mass limits are established and (2) the permittee requested that the concentration limit be removed to allow for flexibility in managing the discharges from Outfall 002. See Section IX of the Statement of Basis for additional information.
- C. The daily maximum and monthly average technology-based mass limits for TSS will be increased using the tons of sugar cane processed and the number of days of production based on information provided in the 2009 Application. The daily maximum technology-based concentration limit will be removed by BPJ since there is no requirement to monitor for concentration under the guidelines cited at LAC 33:IX.707.D.2.b.
- D. The provision in Part II.J which required the permittee to comply with an annual average BOD₅ and TSS discharge limit will be removed

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from the draft permit. These limits and the associated reporting requirements will not be included since the proposed mass limits will always be more stringent than the annual average mass limits based on 40 CFR 409, Subpart D.

- E. A provision will be added in Part II.G which requires the permittee to submit analytical data as required by the Water Quality Regulations in accordance with Section III.C.4 of the IND Application. The permittee will not need to re-submit analytical data that was provided in the 2009 Application. This provision will require the facility to submit analytical data within one (1) year after the effective date of the permit. Upon submittal of the analytical data, the LDEQ may choose to modify this permit to change the effluent limits based on this information.
- F. The provision in the Part II conditions that required submittal of DMRs to the Acadiana Regional Office will be removed from the permit since all DMRs sent to the Office of Environmental Compliance/Permit Compliance Unit are now scanned into an Electronic Document Management System (EDMS) which is accessible to all LDEQ personnel.

IX. Permit Limit Rationale:

The following section sets forth the principal facts and the significant factual, legal, methodological, and policy questions considered in preparing the draft permit.

1. Outfall 002 - process wastewater (comprised of wastewaters from filter mud and fly ash, cane washwater, floor washwater, overflow from the spray cooling pond, and barometric condenser cooling water) and stormwater runoff

St. Mary Sugar Cooperative, Inc., St. Mary Factory is subject to Best Practicable Control Technology Currently Available (BPT) and Best Conventional Pollutant Control Technology (BCT) effluent limitation guidelines listed below:

Manufacturing Operation

Guideline

Raw Cane Sugar Processing

LAC 33:IX.707.D.2

| PARAMETER(S) | MASS, LBS/DAY unless otherwise stated | | CONCENTRATION, MG/L unless otherwise stated | | MEASUREMENT FREQUENCY (*1) |
|--------------|---|------------------|---|------------------|----------------------------------|
| | MONTHLY AVERAGE | DAILY MAXIMUM | MONTHLY AVERAGE | DAILY MAXIMUM | |
| Flow, MGD | Report | Report | --- | --- | Continuous |

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| PARAMETER(S) | MASS, LBS/DAY unless otherwise stated | | CONCENTRATION, MG/L unless otherwise stated | | MEASUREMENT FREQUENCY (*1) |
|------------------------|---|------------------|---|------------------|----------------------------------|
| | MONTHLY AVERAGE | DAILY MAXIMUM | MONTHLY AVERAGE | DAILY MAXIMUM | |
| BOD ₅ | --- | 219 | --- | --- | 1/week |
| TSS | 1,040 | 3,120 | --- | --- | 1/week |
| pH (Standard Units) | --- | --- | 6.0 (Min) | 9.0 (Max) | 1/week |

(*1) When discharging.

Site-Specific Consideration(s)

Flow - monitoring requirements are established in accordance with LAC 33:IX.2707.I.1.b. These requirements are consistent with the current permit.

BOD₅ - the daily maximum mass limit is based on the *Lake Fausse Pointe and Dauterive Lake Watershed TMDL for Dissolved Oxygen and Nutrients Including WLAs for Three Point Source Discharges* which was finalized on September 2, 2003. According to the current permit, this permittee was assigned a daily maximum water quality-based mass limit and a technology-based concentration limit for BOD₅ of 175 lbs/day (using a flow value of 1.4 MGD and concentration value of 15 mg/L) and 15 mg/L, respectively. However, based on further review of the TMDL assessment, this Office has determined that the daily maximum water quality-based mass limit established in the current permit is inaccurate. The mass limit for BOD₅ will be changed to reflect 219 lbs/day using the modeled flow value of 1.75 MGD and concentration value of 15 mg/L based on information obtained from the TMDL assessment and an associated appendix (Appendix N).

TSS - mass limits in the current permit are based on the Water Quality Regulations cited at LAC 33:IX.707.D.2.b using the tons of sugar cane processed during the 2002 grinding season and the number of days of production. The calculations are provided below:

Tons of Sugar Cane Processed in 2002: 931,463 tons
 Number of Days of Production: 120 days

To determine the production rate (tons/day), the following calculation was performed below:

$931,463 \text{ tons} / 120 \text{ days} = 7,762 \text{ tons/day}$

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Based on this information, the mass limits were calculated using the following equation:

Production Rate (tons/day) * Production-Based Factor (lbs/ton) =
 mass limit (lbs/day)

TSS Limits

Daily Maximum

7,762 tons/day * 0.24 lbs/ton = 1,863 lbs/day (after rounding)

Monthly Average

7,762 tons/day * 0.08 lbs/ton = 621 lbs/day (after rounding)

To determine the limits for the proposed permit, the same methodology was taken into account using the tons of sugar cane processed and the number of days of production based on information provided in the 2009 Application. The calculations are provided below:

Tons of Sugar Cane Processed in 2009: 1,300,000 tons
 Number of Days of Production: 100 days

To determine the production rate (in tons/day), the following calculation was performed below:

1,300,000 tons/100 days = 13,000 tons/day

Based on this information, the proposed mass limits were calculated as follows:

TSS Limits

Daily Maximum

13,000 tons/day * 0.24 lbs/ton = 3,120 lbs/day

Monthly Average

13,000 tons/day * 0.08 lbs/ton = 1,040 lbs/day

pH - limits are established in accordance with LAC 33:IX.1113.C.1. These requirements are consistent with the current permit.

STORM WATER POLLUTION PREVENTION PLAN (SWP3) REQUIREMENTS

In accordance with LAC 33:IX.2707.I.3 and 4 [40 CFR 122.44(I)(3) and (4)], a Part II condition is proposed for applicability to all storm water discharges from the facility, either through permitted outfalls or through outfalls which are not listed in the permit or as sheet flow. For first time permit issuance, the Part II condition requires a Storm Water Pollution Prevention Plan (SWP3) within six (6) months of the effective

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date of the final permit. For renewal permit issuance, the Part II condition requires that the Storm Water Pollution Prevention Plan (SWP3) be reviewed and updated, if necessary, within six (6) months of the effective date of the final permit. If the permittee maintains other plans that contain duplicative information, those plans could be incorporated by reference to the SWP3. Examples of these type plans include, but are not limited to: Spill Prevention Control and Countermeasures Plan (SPCC), Best Management Plan (BMP), Response Plans, etc. The conditions will be found in the draft permit. Including Best Management Practice (BMP) controls in the form of a SWP3 is consistent with other LPDES and EPA permits regulating similar discharges of stormwater associated with industrial activity, as defined in LAC 33:IX.2522.B.14 [40 CFR 122.26(b)(14)].

TMDL Waterbodies

Subsegment No. 060702 of the Vermilion-Teche Basin is not listed on the 2006 Final Integrated 303(d) List as impaired since the all of the Total Maximum Daily Loading (TMDL) reports have been completed for this subsegment. The pollutants of concern were Phosphorus, Nitrogen (Nitrate plus Nitrite as N), Organic Enrichment/Low Dissolved Oxygen (DO), and Suspended Solids/Turbidity/Siltation. However, Phosphorus and Turbidity were delisted as pollutants of concern. The remaining pollutants have been addressed in the following TMDL assessments:

Organic enrichment/low DO and Nutrients

The Lake Fausse Pointe and Dauterive Lake Watershed TMDL for Dissolved Oxygen and Nutrients Including WLAs for Three Point Source Discharges was finalized on September 2, 2003. According to the current permit, this permittee was assigned a daily maximum water quality-based mass limit and a technology-based concentration limit for BOD₅ of 175 lbs/day (using a flow value of 1.4 MGD and concentration value of 15 mg/L) and 15 mg/L, respectively. However, based on further review of the TMDL assessment, this Office has determined that the daily maximum water quality-based mass limit established in the current permit is inaccurate. The mass limit for BOD₅ will be changed to reflect 219 lbs/day using the modeled flow value of 1.75 MGD and concentration value of 15 mg/L based on information obtained from the TMDL assessment and an associated appendix (Appendix N). The daily maximum technology-based concentration limit will be removed from the draft permit by BPJ since (1) there is no requirement to limit concentration when mass limits are established and (2) the permittee requested that the concentration limit be removed to allow for flexibility in managing the discharges from Outfall 002.

For the Nutrient TMDL, it was determined that the ratio of Nitrogen to Phosphorus needed to be maintained. Therefore, the ratio of inorganic nitrogen to ortho phosphorus was analyzed and assumed to be a zero load for this permittee.

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Suspended Solids/Siltation

The TMDL for TSS, Turbidity, and Siltation for the Bayou Teche Watershed was finalized on May 2, 2002. According to this TMDL assessment, "point sources do not represent a significant source of TSS" and "are already addressed by LDEQ through their permitting of point sources"; therefore, "the wasteload allocations for point source discharges were set to zero". Therefore, a daily maximum and monthly average technology-based mass limit was established in the current permit based on the Water Quality Regulations cited at LAC 33:IX.707.D.2.b using the tons of sugar cane processed during the 2002 grinding season in which cane was ground and the number of days of production. The basis for the mass limits will be continued in the draft permit using the production rate and number of days of production provided in the 2009 Application. The daily maximum technology-based concentration limit will be removed by BPJ since there is no requirement to monitor for concentration under the guidelines cited at LAC 33:IX.707.D.2.b.

For Siltation, "there are no numeric guidelines or criteria" and "there is little or no existing information available that would allow a direct evaluation of stream substrate conditions". Therefore, "in this TMDL, TSS is used as an indicator for siltation or bottom deposits resulting from inorganic sediment loads".

A reopener clause will be established in the permit to include more stringent limits, if needed, as a result of any modifications to the TMDLs

X. Compliance History/DMR Review:

- A. LDEQ records were reviewed for the period of December 2007 through December 2009. There are no open enforcement actions listed for this facility under any media during this time period.
- B. A DMR review of the monitoring reports covering the monitoring period of July 2004 through December 2009 revealed the following effluent excursions:

| DATE | PARAMETER | OUTFALL | REPORTED VALUE | PERMIT LIMITS |
|-------|------------------|---------|----------------|--------------------------|
| 07/07 | BOD ₅ | 002 | 195 lbs/day | 175 mg/L (daily maximum) |
| 04/07 | BOD ₅ | 002 | 183 lbs/day | 175 mg/L (daily maximum) |
| 09/06 | BOD ₅ | 002 | 210 lbs/day | 175 mg/L (daily maximum) |
| 08/06 | BOD ₅ | 002 | 220 lbs/day | 175 mg/L (daily maximum) |
| 07/06 | BOD ₅ | 002 | 190 lbs/day | 175 mg/L (daily maximum) |

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A compliance referral was forwarded to the Office of Environmental Compliance/Water Enforcement Division on February 11, 2010, for the effluent excursions noted above. A comment was included in the referral to inform the Enforcement Division that the limit for BOD, was inaccurate and would be changed in the proposed permit.

- C. The most recent inspection was conducted on March 17, 2009. This inspection was a follow-up to an inspection conducted on June 19, 2008. The June 2008 inspection report noted the following: (1) there was contamination around a 10,000-gallon diesel tank; (2) there were no calibration logs for the pH meter; (3) there were no written logs for the Stormwater Pollution Prevention Plan (SWP3) inspections; (4) the pH buffer was expired; and (5) there was no thermometer in the sample refrigerator. The March 2009 follow-up inspection noted that all areas of concern from the June 2008 inspection have been corrected.

On January 12, 2009, the LDEQ sent Warning Letter WE-L-08-0508 to the permittee regarding the violations found during the June 2008 inspection. On or about February 13, 2009, the permittee submitted a response to the warning letter which outlined the course of action that was taken to correct the violations. On or about September 10, 2009, the LDEQ sent Notice of Corrected Violation WE-CV-08-0508 to the permittee which indicated that all of the areas identified in the warning letter had been addressed.

XI. Endangered Species:

The receiving waterbody, Subsegment No. 060702 of the Vermilion-Teche Basin is not listed in Section II.2 of the Implementation Strategy as requiring consultation with the U.S. Fish and Wildlife Service (FWS). This strategy was submitted with a letter dated January 11, 2010 from Rieck (FWS) to Nolan (LDEQ). Therefore, in accordance with the Memorandum of Understanding between the LDEQ and the FWS, no further informal (Section 7, Endangered Species Act) consultation is required. The effluent limitations established in the permit ensure protection of aquatic life and maintenance of the receiving water as aquatic habitat. Therefore, the issuance of the LPDES permit is not likely to have an adverse effect on any endangered or candidate species or the critical habitat.

XII. Historic Sites:

The discharge is from an existing facility location, which does not include an expansion on undisturbed soils. Therefore, there should be no potential effect to sites or properties on or eligible for listing on the National Register of Historic Places, and in accordance with the "Memorandum of Understanding for the Protection of Historic Properties in

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Louisiana Regarding LPDES Permits" no consultation with the Louisiana State Historic Preservation Officer is required.

XIII. Tentative Determination:

On the basis of preliminary staff review, the Department of Environmental Quality has made a tentative determination to reissue a permit for the discharge described in the application.

XIV. Public Notices:

Upon publication of the public notice, a public comment period shall begin on the date of publication and last for at least 30 days thereafter. During this period, any interested persons may submit written comments on the draft permit and may request a public hearing to clarify issues involved in the permit decision at this Office's address on the first page of the statement of basis. A request for a public hearing shall be in writing and shall state the nature of the issues proposed to be raised in the hearing.

Public notice published in:

Local newspaper of general circulation

Office of Environmental Services Public Notice Mailing List